Imagination, Embodiment and Situatedness: Using Husserl to Dispel (Some) Notions of 'Off-Line Thinking'

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During the long reign of behaviourism, imagination almost seemed to disappear into "the outer darkness of intellectual irrelevance" (Morley 2005: 117). Now, after cognitive science's early 'iconophobia' (Thomas 2007), imagination research has grown into what has been described as a 'flourishing' (Chalmers and Bourget 2007) field of investigation. This relatively recent phenomenon happens to coincide, more or less, with the arrival of "a new way of thinking about the mind and things mental that has started to seep out of the ivory tower and set up residence in popular consciousness" (Rowlands 2010: 1) – a way of thinking that is said to be "sweeping the planet" (Adams 2010: 619). What is meant is a new model of the mind, the model of 'situated cognition', which I take to comprise '*e*mbedded', '*e*nactive', '*e*mbodied' and/or '*e*xtended' theories of cognition.[1] While these 4*e*'s significantly diverge, and even conflict in some respects (more about this in Sect. 4), they share the view that cognition does not, or not exclusively, depend on mental representations understood as well-individuated 'internal' symbols. Instead, cognition may also depend on the cognitive system's embeddedness in the surrounding environment (Rupert 2009; Haugeland 1998); on aspects of its activity (Noë 2004; Hurley 1998; Varela et al. 1991); on features of its embodiment (Thompson 2007; Gallagher 2005; Haugeland 1998); and/or on material vehicles or processes that extend into the world (Clark 2008; Clark and Chalmers 1998).

And yet, crossovers between the two exciting developments are rare. Imagination does not lend itself, or so it seems, to a situated account. In what follows I propose that serious challenges notwithstanding, there are also reasons to think that these may not be insurmountable, at least not for all features of imagination. With the help of Husserl's phenomenological analysis of 'phantasy'

[1] I follow Robbins and Aydede (2009: 3) in my use of the term. For an important alternative understanding see Wilson (2002). I return to this point in Sect. 3 (see fn. 9).

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('Phantasie'), i.e., sensory imagination, I highlight some of those aspects and begin to show how they might be accommodated by some strands (some *e*'s) of situated cognition. To begin with, however, some clarifications are in order. Some of the terms that are most relevant to the discussion here are used in specific technical senses in situated cognition theory or Husserlian phenomenology, and some are used in both discourses but in incongruent ways. Some of these incongruities are due to important differences in the scope of research, which, if overlooked, can obscure both points of connection and points of divergence. I therefore begin by laying out the necessary vocabulary and some key coordinates of scope, i.e., of the aim and purview of situated cognition theory and Husserlian phenomenology respectively.

1 How to Begin: Some Terminology and Clarification of Scope

Within the cognitive sciences *cognition* is usually understood as information processing, which, within the prevalent functionalist framework, is not tied to a specific (human or non-human) processing architecture, but is meant to cross over boundaries between human, animal and A.I. cognition. Researchers are mostly concerned with subpersonal processes associated with adaptive flexible, not necessarily human, behaviour. Within philosophy in general and phenomenology in particular, cognition is, on the contrary, usually understood as human cognition (for notable, mostly recent, exceptions *see* Andrews 2012). Philosophers, especially those who work in philosophy of mind, epistemology and phenomenology, investigate some of the same cognitive processes as cognitive scientists, such as perception, memory, and problem solving. However, at least traditionally, they do so in terms of potentially *conscious* (human) subjects and agents.

Husserl gives a wide definition of *consciousness* as a "comprehensive designation for any 'mental acts', or 'intentional experiences'" (Husserl 2001b: V, §1). The phenomenological slogan 'all consciousness is consciousness of' expresses Husserl's understanding that consciousness and intentionality are inextricably linked. By this he does not mean that all intentionality is 'conscious' in the sense that we are always explicitly aware of what we, for example, perceive (this is evidently not the case). Instead he claims that intentionality is 'lived through' ('erlebt') in a mode of tacit self-awareness (Husserl 2001a: 607; Zahavi 1999, 2003). Translated into the terms of current philosophy of mind, this means that, for Husserl, there is no intentionality without *phenomenal consciousness*, even though we ordinarily pay attention to the intentional contents (the objects) of experience. Arguably the most dominant (functionalist) view in philosophy of mind and cognitive science is, in contradistinction to Husserl's, that intentionality can be regarded in isolation from phenomenal consciousness. Intentionality is here understood in a narrow sense as the 'aboutness' of, for example, mental

or neural states or processes and computational symbols (also referred to as 'representations'). Phenomenal consciousness, 'consciousness' for short, is then attributed only to experience for which there is 'something it's like' subjectively to undergo it (often taken to be equivalent to 'qualia'). However, the relation between intentionality and phenomenal consciousness is highly contentious. *Intentionalism* here refers to the view that phenomenal consciousness supervenes on intentionality (Byrne 2001; Harman 1990), which in its strong version involves the view that phenomenal consciousness can be reduced to, or is identical with representational content (Kind 2007; Tye 1995, 2000; Dretske 1995).[2] Although currently less dominant, non-reductive views of phenomenal consciousness, which are more compatible with a Husserlian position, have also received considerable attention and have in some cases even involved arguments for the inverse dependence of intentionality on phenomenal consciousness (Fasching 2012; Klausen 2008; Pitt 2004; McGinn 2004; Loar 2003; Horgan and Tienson 2002; Siewert 1998; Strawson 1994, 2004; Searle 1992).

The issue of *representation* is one of the longest standing issues in philosophy and arguably one of those most central to modern philosophy in particular. Very generally speaking, it concerns the different ways in which (human) minds or, to put it neutrally, cognitive systems refer to, or represent the world. With the emergence of cognitive science and its increasing influence on philosophy of mind, philosophical debates have shifted significantly from traditional concerns with representational *contents* to (scientifically testable) concerns with the roles representations play in cognition. In this context, representations are often considered in their function as material (e.g., neural) *vehicles* of content. Through British empiricism, German (Neo-Kantian) philosophy and early psychology, the term 'representation' ('Vorstellung') also became a key term for Husserl. Mostly, he uses 'representation' and 'consciousness' interchangeably ('perceptual consciousness' and 'perceptual representation'; 'phantasy consciousness' and 'phantasy representation', etc.). While, as a phenomenologist, Husserl is not equipped to investigate the physical nature of representational vehicles, it can still be argued that a particular version of the content-vehicle-distinction applies to his account (see Sect. 3).

The focus on representations has led to various divergent senses of *representationalism* and *anti-representationalism* (see fn. 2), but only one is directly relevant to our concerns here. It is the view that cognition is exclusively mediated by representations as its only vehicles, which are individuated inside a (natural or artificial) mind (henceforth: '*representationalism*'). The corresponding 'anti-representationalism' accordingly refers to the view that cognition does not, or not exclusively, depend on such representations as its only vehicles (henceforth: '*anti-representationalism*'). It is important to note that the oppositional pair 'representationalism/anti-representationalism' is

[2] Intentionalism is also referred to as 'representationalism'. I exclusively use 'intentionalism' in order to avoid confusion with the sense of representationalism I outline below.

not congruent with the further oppositional pair 'internalism/externalism'. Internalism regarding vehicles of cognition (henceforth: '*vehicle internalism*') involves the claim that all vehicles are internal to a (natural or artificial) brain, while the corresponding externalism (henceforth: '*vehicle externalism*') denies this claim. However, the rejection of the claim that the vehicles of cognition exclusively consist of discretely individuated representations does not necessarily entail the rejection of the claim that all vehicles of cognition are intracranial. It is, for example, possible to be an anti-representationlist to the extent that one believes that the vehicles of cognition are systematically distributed (rather than discretely individuated); *and* to be an internalist to the extent that one believes that vehicles are so distributed only intracranially (see Sect. 4).

While Husserl has often been taken for a traditional Cartesian internalist (Rowlands 2003; Dreyfus 1991; Rorty 1979), more recent scholarship has produced persuasive evidence for an externalist reading. It has been suggested more recently that he is not only an externalist regarding content – nowadays a less contentious issue – but also a vehicle-externalist (Zahavi 2008). Since one cannot, by means of Husserl's phenomenology, directly confirm or disprove claims concerning the material nature of representational vehicles, a particular notion of 'vehicle' must be in play for this to be true (see Sect. 3). Further, since Husserl is concerned not with cognition but with consciousness (in his wide sense of the term), the case of his alleged externalism raises the question of phenomenal externalism. *Phenomenal externalism* claims that the phenomenal quality of a given experience depends upon more than just states or processes internal to the brain of the experiencer. This position is still considerably more contentious than other versions of externalism, at least in part because conscious experience does not lend itself as easily to the strong functionalist approach that undergirds much of vehicle externalism.[3] Since imagination is commonly considered intrinsically tied to phenomenal consciousness, the issue of phenomenal externalism is critical for a situated approach to imagination (see Sect. 4).

Any attempt to integrate imagination in a situated cognition framework with the help of Husserlian phenomenology must be aware of the above differences in terminology and scope, and of some of the difficulties they cause. It also has to specify which, if any, strand of 'situated cognition' it considers fitting for an account of imagination (see Sect. 3). In what follows I focus exclusively on sensory imagination and argue that some of its features, described by Husserl under the name of 'phantasy', do not rule out, and perhaps even call for a situated account.

[3] Even Byrne and Tye, themselves defenders of phenomenal externalism, admit that it is generally thought "an absurd thesis, accepted by a handful of philosophers with too much respect for philosophical theory and not enough common sense" (Byrne and Tye 2006: 242).

2 Husserl's Account of Imagination: From Phantasy to Simulation

Husserl describes 'phantasy' (henceforth: 'imagination' or 'imagining') as a sensory experience of something in its absence. He argues that perceiving and imagining share a number of features and even describes imagination as 'quasi-perception'. In perception as well as imagination objects are given in a modal (visual, tactile, auditory, olfactory or gustatory) sensory way – even though in the case of imagination the object is not normally present to the senses.[4] Moreover, perceived and imagined objects are given perspectivally, or from a (usually not explicit) point of view.[5] They are experienced as near or far, as left or right, as below or above, as close or distant; they appear from certain angles and show partial profiles of themselves. Both perceived and imagined objects have 'internal' and 'external' horizons (Marbach 1993: 77). Their internal horizons unfold in a series of profiles. They can be, at least potentially, moved or rotated; or, one may move further towards or away from them, 'look' at them from above or below. Their external horizons (minimally, a figure on a background) are present as perceptual or imaginary contexts or environments.

Moreover, perception and imagination constitute *immediate* intuitive awareness of objects. In perception as well as in imagination "the intention aims at the thing itself" (Husserl 2005: 192) – in the former case, it does so in the mode of 'being present in person'; in the latter case, it does so in the mode of 'as if'. Husserl vehemently rejects any 'image-theory' (or 'sense data' theory) of imagination, which uses the "crude talk of internal images (as opposed to external objects)" (Husserl 2001b: V, appx. to §§11, 20). Imagining is not viewing mental images or being aware of mental representations. It is *simulating* possible experiences. When I, for example, visualize a summer meadow, I do not 'see' it 'in my mind's eye' but instead *I simulate possible experiences* ('quasi-perceptions') of it. Such simulation can be described in noetic as well as in noematic terms.[6] Imagining requires, according to these analyses, not only the 'making present' *of an object* in a sensory mode (the summer meadow), but also what Husserl calls the 'reproduction' *of the experience* of perceiving it (Husserl 2005: 372 f.), e.g., feeling the warm grass underneath my feat, or the sensation of seeing the sun play with its colours. Those noetic and noematic moments together constitute imagination as a

[4] It is possible, for example, to visualize an object that is perceptually available at the same time. Whether one is in this cases presented with, in the metaphysically rigorous sense, the same identical object, is a discussion for a different paper.

[5] The point of view need not be occupied by an explicitly imagined self but can be merely implicit in the perspectival appearance of imagined objects (Martin 2002).

[6] In Husserl's terminology, noetic analyses describe the experiencing of objects; noematic analyses describe the experienced objects as they are experienced.

simulation of possible experience.[7] Imagining in this sense is evidently distinct from merely supposing or considering something (which, by contrast, do not require any simulation of sensory experience).

Imagining, then, is *like* perceiving, but in the mode of 'inactuality'. When I imagine something (visually, aurally, or in any other sense mode) it is *as if* I perceive it, *but not quite*. Whereas in perception "the object appears to us, so to speak, 'in person,' as itself present," in imagination the object appears as merely represented or as only possible (but not actual); "it is as though it were there, but only as though" (Husserl 2005: 18). Husserl therefore also speaks of perception as 'presentation' ('Gegenwärtigung') and of imagination as 'presentification' ('Vergegenwärtigung').[8] This distinction is not reducible to a difference between perceptual and imagined intentional content, but rather points to a difference in the modes in which those contents are taken (as 'real' or 'unreal'). According to Husserl, this is inextricably linked with the fact that the experience of the *activity* of imagining is also significantly different from the experience of the activity of perceiving.

When I imagine something I am (implicitly) aware that I can change its attributes and that I can spontaneously begin or stop imagining it – options that I do not have when I perceive something. Moreover, while I am imagining something (the summer meadow again), I am still tacitly aware of my actual, and still perceived, surroundings (the dull artificial light in my office, the computer screen I am staring at, the keyboard under my fingers). No matter how vivid my imagination, under ordinary circumstances something (e.g., an incoming email, a phone call, hunger or thirst) will sooner or later make me again explicitly aware of my perceptual environment. In fact, when I lose this anchoring in the actual situation, I may be hallucinating or dreaming, but not imagining in the sense in which I use the term here (Marbach 1993: 83–85). To the extent that this duality – Husserl even speaks of a 'conflict' (Husserl 2005: 72–75) – is not only a by-product of the experience of imagining, but is *intrinsic* to it, it can be said to be *constitutive* of imagining. This helps to explain why, under normal circumstances, we can easily tell whether we are currently perceiving something or imagining it (even if we can be mistaken, as in cases of illusion or hallucination), and why we need not refer to differences between intentional properties of the objects in question when we do so.

[7] Recent accounts of imagination as simulation, which, however, do not make use of Husserl's analyses, include Thompson (2007), Thomas (2007), Currie and Ravenscroft (2002), Martin (2002).

[8] I use 'presentification' instead of Brough's 'representation' (Husserl 2005) in order to avoid confusion between different senses of 'representation'.

3 How Hungry Is the Imagination? Some Problematic Assumptions in Situated Cognition

There are strong prima facie reasons to doubt the applicability of situated cognition to imagination. First, imagination is commonly taken to occur 'off-line', i.e., in the absence of the imagined objects or state of affairs. If one thinks of situatedness in terms of "the densely coupled ... ongoing perceptual link with some external goings-on" (Clark 2005: 233), then imagination appears impervious to situated cognition. Margaret Wilson puts it simply: "Any cognitive activity that takes place 'off-line,' in the absence of task relevant input and output, is by definition not situated" (Wilson 2002: 626).[9] Moreover, the issue of phenomenal externalism poses considerable difficulties. Situated cognition, as the term suggests, typically deals with cognition, and not with consciousness. Imagination, however, is commonly understood as tied to phenomenal consciousness. Unsurprisingly, this poses less of a problem for situated positions with strong sympathies for phenomenology (Hurley 2008; Thompson 2007; Gallagher 2005; Noë 2004; Noë and Thompson 2004; Hurley and Noë 2003; Varela et al. 1991). However, serious objections have been raised (Clark 2009; Prinz 2009), and it is still the case that situated cognition overwhelmingly deals with explanations of non-conscious, subpersonal cognitive states and processes.

Finally, situated cognition research is generally functionalist in its outlook and therefore, in its most strongly functionalist strands, neutral to specific material realizations of cognitive systems. True to some behaviourist ancestry, researchers are mostly concerned with subpersonal processes associated with adaptive flexible, not necessarily human, *behaviour*. 'On-line' cognition involves *task relevant* inputs and outputs (Wilson 2002) and the exploitation of "the continuing presence of some tangible *target*" (Clark 2005: 234; my emphasis). Imagination, however, is usually regarded as paradigmatic of specifically human capacities for high-level cognition, creativity and non-purposive activity, which may or may not involve observable behaviour.

These three challenges to a situated approach to imagination get some of their traction from a misconstrual of imagination, which is so pervasive that it is often taken to be self-evident. It assumes that imagining, because it usually occurs in the absence of the imagined object, is non-relational, or non-world-involving, and, further, that it therefore exclusively involves internal representations. Depending on whether one is committed to a sense-datum theory or to intentionalism, one may consider these representations as mental images (mirroring the corresponding percepts), or as intentional contents (just like the contents of the corresponding perception, but without the commitment to things being as they are represented). The so-called 'imagery debate', which held the

[9] Note that Wilson uses a far narrower definition of 'situated cognition' than I do throughout this article (see fn. 1).

field in its grip for about 30 years,[10] can be read as an expression of cognitive science's oscillation between these two alternatives. It thereby inserts itself seamlessly into a long tradition of internalist representationalism in philosophy; and it reduces the difference between perception and imagination to the difference between a mental representation with or without the presence of a perceptual stimulus (Kosslyn et al. 2006: 4).

Husserl's account of imagination as a *simulation* of perception does not necessarily challenge internalist representationalism (simulation could still be 'all in the head'), unless one considers three further assumptions prevalent in philosophy of mind and cognitive science, which I believe are all problematic. First, I believe that the widely accepted distinction between *on-line and off-line cognition* deserves more critical attention. Off-line cognition has been associated with cases of cognition that Clark and Torribio (1995) have dubbed 'representation hungry', such as cases of "counterfactual reasoning or abstraction, that are by their very nature out of bounds to explanations that do not utilize representations" (Shapiro 2011: 207). The inclusion of imagination in this group of 'hungry' cases seems natural. An examination of this assumption has been hampered by what we may call the 'perception bias', which is motivated by a commitment to the investigation of 'densely coupled' processes that facilitate observable 'adaptive flexible' behaviour in the 'presence of a tangible target'. Perception clearly fills these slots, and, especially with an intentionalist/functionalist model in hand, its phenomenal qualities can easily be ignored.

While he readily adopts the on-line/off-line distinction in his work, Clark has challenged the rigidity with which it is applied. He argues that at least some cases of off-line thinking occur within structures that offer "surrogate situatedness" through "real- world models, diagrams, and other concrete external symbols" (Clark 2005: 234). He blames the widespread failure to recognize the importance of surrogate situatedness on the common conflation between 'disengaged' and 'decontextualized' cognition. Disengaged cognition operates "in the absence of its ultimate target, as when we think of that which is not close to hand" and ought to be distinguished from decontextualized cognition, which operates "without the kinds of dense, perceptually saturated local couplings that most obviously reward treatment in dynamical and situated terms" (Clark 2005: 233 f.). Off-line cognition that involves surrogate situatedness, Clark argues, is disengaged but still contextualized, which is to say that it is "disengaged but not disembodied" (Clark 2005: 236). True to the perception bias, Clark insists on the perceptual nature of the surrogates in question. Thus he speaks of "real world" models and symbols understood as "stable

[10] Here is a reminder of that debate: On one side, Hannay (1971, 1973), Kosslyn (1980, 1994), Tye (1988, 1991), Cohen (1996) and others have defended pictorial or imagistic accounts of imagination. On the other side, it has been claimed that mental imagery is too indeterminate to represent pictorially (or even 'quasi-pictorially') (Fodor 1975) and that therefore imagining is more likely to require the use of amodal descriptions (Dennett 1969; Pylyshyn 1973, 2003).

external structures that stand in for absent states of affairs" (Clark 2005: 234) that "augment" or "amplify" human cognition (Clark 2005: 236, 239). And he further insists, in keeping with the deep functionalist commitments of much of situated cognition, "that surrogate situations should be purpose-built" to provide "some leverage for real-world action and intervention" (Clark 2005: 237). This goes some way to drawing in some, perhaps less paradigmatic, cases of imagination into situated cognition, and into an extended account in particular. And yet, imagining often occurs independently from external perceptual structures or real-world purposes. Clark's account, while it shows that imagination is not 'representation starving', still leaves it for the most part 'representation hungry'.[11]

It is not possible to give a fully satisfying account here, but I want to suggest that considering a further distinction (besides 'on-line/off-line') can help us see a way towards a more comprehensive account, namely the distinction between an *empirical* and a *transcendental* stance towards representations. The *empirical stance* considers them empirical objects, which can be observed and described as, for example, neural processes or psychological items, such as mental images. However, the very idea of a 'stance' implies that a different stance is possible. The *transcendental stance*, in contradistinction to the empirical one, considers vehicles not simply as empirical objects but as processes that *make possible* the experience of objects on the personal level (without, of course, thereby denying their material nature). The shift from the empirical to the transcendental stance does not necessitate but encourages the shift from taking vehicles as states to taking them as processes; for it highlights unnecessary objectifying tendencies in thinking about vehicles as individuated, object-like items in the mind's 'machinery'. Even more importantly perhaps, it discourages any reductive tendencies that dismiss phenomenological accounts as irrelevant to scientific explanations of subpersonal cognition; for it highlights that such explanations are only explanatory across non-human and human cognition, if, in the case of human cognition, they consider phenomenological descriptions of what the vehicles under scrutiny are said to make possible.

The recognition of the two distinct stances has been hampered by what we may call the 'naturalist bias', which is motivated by the necessary reliance of science on the investigation of observable objects. The practice of scientific observation comes with the perfectly understandable inclination to consider all objects as empirical objects, that is, as items or processes that can be examined by scientific observation. This is trivially true when one adopts the empirical stance. The transcendental stance, on the contrary, considers vehicles not only in terms of their material nature or location but also as (neural and extra-neural) processes *in virtue of which* cognition occurs.[12] It thereby considerably expands the scope of

[11] I take the distinction between 'representation hungry' and 'representation starving' cognition from (Shapiro 2011: 208).

[12] I am not suggesting that one has to commit to one or the other stance, or that one or the other stance is 'better' than the other. Although I cannot argue for it here, I believe that investigations not only of consciousness but also of cognition more generally require awareness of both stances and probably switches between them, depending on the concrete task at hand.

what can count as vehicle (not only empirically observable, well individuated objects/processes with determinate locations!) and spurs *dynamic* and *holistic* models, not only for personal cognitive engagements but also for subpersonal, vehicular explanations of cognition. It turns the focus away from vehicles as individual *parts* (empirical object in their own right) and towards their contribution to the dynamic cognitive process *as a whole*.[13] Moreover, the transcendental stance allows for a certain 'agnosticism' concerning vehicles *of consciousness*, in the sense that it makes no demands for token-token correlations between neural and conscious states.[14] It thereby circumvents some of the worries about phenomenal externalism and thus encourages attempts to integrate consciousness into a situated account of cognition. Husserl takes this transcendental stance when he describes imagination not only in terms of the ways in which imagined objects appear, but also in terms of the complex tacit and explicit, noetic and noematic processes *in virtue of* which they can appear in the way they do. He thus delivers an account not only of the contents of the experience but also, in a certain sense, of its vehicles.[15]

I think of the transcendental stance as a stance that is readily adopted in a range of strands of situated cognition theories, even though it is rarely made explicit (for exceptions to this rule *see* Ward 2012 and Rowlands 2010). Approaches influenced by phenomenology and/or dynamic systems theory, in particular, are likely to reflect both empirical and transcendental stances. This might explain differences amongst different strands of situated cognition that cut across the standard distinctions of the 4 *e*'s. The assessment of whether imagination is susceptible to situated cognition must take these differences into consideration.

[13] Gallagher has recently illustrated this point by making the analogy between cognition and digging 'by means' of a shovel. The point of including the shovel as an 'extension' of the process "is not that I extend my musculature – the point is that my *digging* is something extended from my bodily musculature across the shovel and into the ground" (Gallagher 2011).

[14] Sceptics of phenomenal extension whose doubts seem to be based on a strictly empirical stance include, for example, Fodor who points out that we do not know "even to a first glimmer, how a brain (or anything else that is physical) could manage to be a *locus* of conscious experience. This . . . is, surely, among the ultimate metaphysical mysteries; don't bet on anybody ever solving it" (Fodor 1998: 83; my emphasis). See also Prinz: "We have never found any cells outside the brain that are candidates as correlates for experience. Such cells would have to co-vary with conscious states in content and time course" (Prinz 2009: 425). Both are cited by Clark who concludes that "the machinery of conscious experience is (probably) all in the head" (Clark 2009: 987) because he believes that extra-cranial processes can only causally, but not constitutively, drive consciousness (as opposed to cognition).

[15] Although I cannot argue for it here, I believe that the transcendental stance is fully compatible with and even should be part of empirical research. I thus do not see it standing in conflict with (some) recent attempts to 'naturalize' phenomenology.

4 Husserl's Account of Imagination in the Context of Situated Cognition: Embodied? Enacted? Embedded? Extended?

Let us return to the general description of situated cognition I gave in the introduction. In most general terms, what unites the 4*e*'s under the umbrella of situated cognition is the hypothesis that cognition does not, or at least not exclusively, depend on mental representations understood as well-individuated 'internal' symbols. Instead, cognition may also depend on the cognitive system's embeddedness in the surrounding environment; on aspects of its activity; on features of its embodiment; and/or on material vehicles or processes that extend into the world. However, with the idea of situated cognition increasingly gaining influence in the fields of philosophy of mind and cognitive science, more attention has been paid to the significant differences between the approaches it comprises (Menary 2010; Rowlands 2010). These differences include, but are not exhausted by, the difference between the various cognitive extensions suggested (body, action, environment, etc.).

Much rides on what one believes is the right interpretation of the general expression 'depend', as in 'cognition may also depend on . . .'. For example, it is in one sense trivial that cognition 'depends' on the (extra-neural) body. Living organisms need living (digesting, blood-circulating, etc.) bodies in order to do anything, including cognizing; and even software needs to be instantiated in some hardware. The much more interesting and more controversial claim of embodied cognition is that the links between brain and body are not merely causal but *constitutive*. This is to say, bodily processes are not merely externally, i.e., causally or dispositionally, supporting but are intrinsic *parts of* cognition. Something similar holds for enactive and extended approaches, while the embedded approach has been singled out as the least ambitious, or most cautious, approach of the four. For embodied, enactive and extended approaches, it has been argued that the relevant cognitive extensions of situated cognition "are *not merely* noncognitive accompaniments that facilitate the 'real' process of cognition that occurs inside the head or in which the 'real' process is causally *embedded*" but "are genuinely cognitive components of the overall cognitive process" (Rowlands 2010: 129, my emphasis).[16] It seems almost trivial to claim that imagination is, in a modest sense, 'embedded' in bodily, technological, cultural etc. structures and processes. But what about an embodied, enactive or extended approach to imagination?

The answer to this question is made more difficult by the fact that it is not entirely clear what it means to be a 'genuinely cognitive component of cognition'. Neither is it clear what it means to be 'constitutive of cognition'. Much of the many disputes amongst advocates of different *e*'s are fueled by disagreements about whether some supposed cognitive extension really is constitutive, or merely causal,

[16] This has also been positively recognized by advocates of the embedded approach (Rupert 2009).

or 'supportive', after all. In an attempt to clear some of the thicket of these debates, Itay Shani (2013) has recently proposed that there are at least two principal ways of understanding the contested issue: in terms of mental states, which motivates what Shani calls 'Mental States Externalism (MSE)'; and in terms of processes, which motivates what Shani calls 'Process Externalism (PE)'. I take MSE to be typical for an empirical stance, and PE to be typical for a transcendental stance towards vehicles of cognition. The point of this for our purposes here is that it is perfectly possible to hold both PE and not-MSE. That is, it is not contradictory to claim that "at least some cognitive processes are constituted, in part, by trans-cranial (that is, bodily and environmental) variables" *and not* that "mental states may be similarly externalized", which is the position that Shani actually holds (Shani 2013).[17] Clark and Chalmers, on the contrary, seem to advance a far less moderate and far less inclusive position: 'PE *iff* MSE' (Clark 2008, 2009, 2012; Clark and Chalmers 1998). In that sense, as Shani points out "MSE is philosophically more radical: for while PE says that there is more to cognition than the workings of inner mental states, MSE implies that there is more to mental states than inner mental states!" (Shani 2013).

With this distinction in hand it becomes much easier to answer the question, which, if any, strands of situated cognition could accommodate imagination. On the one hand, approaches involving MSE – no matter whether embodied, enactive, or extended – would imply the claim that there is more to mental states of imagination than inner mental states. If one assumes that imaginative mental states are tied to phenomenal consciousness, then this amounts to the claim that there is more to conscious mental states of imagination than inner mental states. This is indeed a hard position to argue for, as it seems to imply a rather literal sense of phenomenal externalism. On the other hand, approaches involving only PE – no matter whether embodied, enactive, or extended – would imply the far more moderate claim that there is more to imagining than the workings of internal mental states. This is the claim that Husserl's account of imagination invites us to consider. He proposes a notion of sensory imagination as an unfolding dynamic and complex process of simulation that involves not only an intentional directedness towards, but also an embodied engagement with objects that are taken by the cognitive system to be unreal or absent, but nonetheless 'external', i.e., different from the system itself and situated in an environment other than the system's actual, i.e., presently perceived surroundings.

I am not claiming that this will open up an entirely new direction but I believe it may support and perhaps even invigorate research already in progress that explores anti-representationalist cognitive processes involved in imagination. Most of the research undertaken in this regard is still internalist. In fact, as Robbins and Aydede point out, in "that sense, 'embodied cognition' is something of a misnomer, at least as far as the bulk of research that falls under this heading is concerned." (Robbins and Aydede 2009: 5) And the same would have to be said about enactive models.

[17] At the time of writing this, Shani's article is pre-published online without page numbers.

The idea of on-line embodiment/enaction usually refers to the dependence of cognition on dynamic interactions between the sensorimotor brain and the relevant parts of the body. Off-line embodiment refers to the dependence of cognition on sensorimotor areas of the brain even in the absence of sensory input and motor input (Gallese 2005; Niedenthal et al. 2005; Barsalou 2003; Bartolomeo 2002; Jeannerod 1994, 1995, 1997, 2001).

However, the transcendental stance and PE allow for a much wider sense of both embodiment and enaction and therefore, at least potentially, for a much wider scope of embodiment and enaction in imagination.[18] While a typical MSE-question concerning imagination may ask whether "the most local machinery whose activity is sufficient" for imagining will "include more than the brain" (Clark 2009: 987), a typical PE-question may ask far more generally whether some of the activity of imagining intrinsically involves engagement with trans-cranial (embodied, enactive, environmental) structures. A further possible sense of situatedness might follow from Husserl's claim that the conflict between imagining and perceiving is *constitutive* of imagining. This would suggest that it is impossible to investigate imagining accurately or appropriately without investigating its relation to simultaneously occurring perceptual processes.[19] If that is the case, then the respective perceptual situatedness might have to be considered 'part of' imagining, and imagining would not be quite as off-line as it first appeared.[20]

Finally, not only embodied and enactive accounts, but also extended accounts of imagination may rid themselves of some of their counter-intuitiveness in light of this discussion. For this, I return to Clark's proposal that something like 'surrogate situatedness' might be at play in some cases of imagination, which makes use of 'real world' models. A loosening of the perceptual and naturalist biases, and a departure from MSE, allows for the consideration that not only 'real world' models but also imagined environments and situations can contribute cognition, e.g., through complex feedback loops that involve simulated scenes not only as products of prior imagining but also as transformative elements of further imagining.[21] We could call this 'simulated situatedness'. Such a conception might even hold a key to the functionalist extension of imagination to non-human and even

[18] This might include even 'over-extended' factors, such as the ones Gallagher has recently mentioned, namely legal systems, language systems, etc. (Gallagher 2011).

[19] Romdenh-Romluc (in this volume) points out that imagining can affect perceptions about the actual environment of a perceiver/imaginer.

[20] Empirical research on the 'dual visual systems' hypothesis might be helpful in testing this. Even though Clark uses it to argue against a specific enactive account of cognition, other interpretations and applications to imagination might be possible (*see* Ward et al. 2011). Clark also points to the "duality of perception and imagination" in one of his recent rejections of enactivism and uses it to argue for the complexity of intra-cranial processes of perceptions (Clark 2012: 761). I cannot argue for it here but I believe that a transcendental stance and PE allow for the inverse interpretation of the same empirical data, namely in support of a trans-cranial account of imagination.

[21] The vague term 'constitutive' has recently been specified by the term 'transformative' in order to respond to objections of 'cognitive bloat' (*see* for example Shani 2013; Gallagher 2011).

non-conscious minds. Surprisingly, then, Husserl may have provided us with an account that enables a conception of non-human imagination. After all, the idea that computers 'simulate' alternative scenarios and possibilities is hardly a shocking idea, and nobody expects those simulations to involve phenomenal consciousness. Giving up some problematic assumptions concerning the nature of imagination might just help to establish a coherent account that crosses over boundaries between human, animal and A.I. cognition.

5 Conclusion

Husserl's phenomenological account of imagination helps to make visible certain conceptual blindspots that I believe obscure potential avenues for an integration of imagination in situated cognition. In particular, the insistence on a narrow and rigid application of the on-line/off-line distinction stands out as misleading in this regard. I argue that the inclusion of a transcendental stance in the interpretative repertoire and the adoption of process externalism facilitate a loosening of this distinction. They might also facilitate a more effective interchange between imagination research in cognitive science and phenomenology. Given that Husserl has provided us with the most extensive material on imagination (exceeding by far even Sartre's), it is critical to this aim that Husserl is not excluded from the range of relevant resources based on outdated representationalist and internalist interpretations of his work.[22] While his phenomenological reflections do not themselves provide the methodological tools to test empirically any claims regarding subpersonal processes, they certainly encourage us to challenge some of the traditional background assumptions concerning cognition, consciousness and imagination that could otherwise close off valuable avenues for empirical as well as non-empirical research.

My observations here are restricted to cases of sensory imagination, and only to some of its most obvious features at that. There are, of course, many more senses of imagination, and even sensory imagination includes many more aspects than those I have discussed. Among those aspects, the issue of affectivity is undoubtedly one of the most important. It has been argued (*see* Ratcliffe, Micali; both in this volume) that affect permeates our perceptual openness to the world and potentially constrains or transforms the ways in which an environment can appear to a perceiver. If this is true for perceiving, then we can expect it to be at least as relevant for imagining. Moreover, what and how we imagine is unlikely to be independent from intersubjectively spread beliefs, values and wishes. A comprehensive investigation of imagination would therefore profit from research motivated by Husserlian notions of 'transcendental intersubjectivity' and 'life-

[22] For a powerful demonstration of Husserl's resourcefulness in this regard *see* Moran (in this volume).

world' (*see* Heinämaa, Pulkinnen and Nenon, all in this volume). In this context, Gallagher's recent suggestion that "certain social institutions (including social practices)" should be considered "mental institutions" because "without them, specific classes of cognitive processes would simply not exist" can be expected to have direct implications on imagination (Gallagher 2011). Finally, a rich account of imagination must consider issues of possibility and freedom. Phenomenological approaches tend to be sensitive to the complex ways in which possibility and freedom (both real and apparent) are bound by embodiment and enculturation (*see* Romdenh-Romluc, de los Reyes Melero, Micali, Ratcliffe; all in this volume). They therefore have much to offer us for a potentially situated account of what used to be considered the most 'mental' of human projects.[23]

References

Adams, F. (2010). Embodied cognition. *Phenomenology and the Cognitive Sciences: Special Issue on 4e Cognition, 9*, 619–628.

Andrews, K. (2012). Animal cognition. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. http://plato.stanford.edu/archives/win2012/entries/cognition-animal/. Accessed 30 Jan 2013.

Barsalou, L. (2003). Situated action in the human conceptual system. *Language and Cognitive Processes, 18*(5/6), 513–562.

Bartolomeo, P. (2002). The relationship between visual perception and visual mental imagery: A reappraisal of the neuropsychological evidence. *Cortex, 38*, 357–378.

Byrne, A. (2001). Intentionalism defended. *Philosophical Review, 110*, 199–240.

Byrne, A., & Tye, M. (2006). Qualia ain't in the head'. *Noûs, 40*(2), 241–255.

Chalmers, D., & Bourget, D. (Eds.). (2007). *Mindpapers. A bibliography of philosophy of mind and science of consciousness*. http://consc.net/mindpapers/. Accessed 20 July 2011.

Clark, A. (2005). Beyond the flesh: Some lessons from a mole cricket. *Artificial Life, 11*, 233–244.

Clark, A. (2008). *Supersizing the mind*. New York: Oxford University Press.

Clark, A. (2009). Spreading the joy? Why the machinery of consciousness is (probably) still in the head. *Mind, 118*, 963–993.

Clark, A. (2012). Dreaming the whole cat: Generative models, predictive processing, and the enactivist conception of perceptual experience. *Mind, 121*, 753–771.

Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis, 58*, 10–23.

Clark, A., & Torribio, J. (1995). Doing without representing? *Synthese, 101*, 401–431.

Cohen, J. (1996). The imagery debate: A critical assessment. *Journal of Philosophical Research, 21*, 149–182.

Currie, G., & Ravenscroft, I. (2002). *Recreative minds*. Oxford: Oxford University Press.

Dennett, D. (1969). *Content and consciousness*. London: Routledge & Kegan Paul.

Dretske, F. (1995). *Naturalizing the mind*. Cambridge, MA: MIT Press.

Dreyfus, H. L. (1991). *Being-in-the-world*. Cambridge, MA: MIT Press.

Fasching, W. (2012). Intentionality and presence. *Husserl Studies, 28*, 121–141.

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Fodor, J. (1975). *The language of thought*. New York: Thomas Crowell.
Fodor, J. (1998). *In critical condition: Polemical essays on cognitive science and the philosophy of mind*. Cambridge, MA: MIT Press.
Gallagher, S. (2005). *How the body shapes the mind*. Oxford: Oxford University Press.
Gallagher, S. (2011). The overextended mind. *Versus, 112–113*, 57–68.
Gallese, V. (2005). Embodied simulation: From neurons to phenomenal experience. *Phenomenology and the Cognitive Sciences, 4*, 23–48.
Hannay, A. (1971). *Mental images – A defence*. London: Allen & Unwin.
Hannay, A. (1973). To see a mental image. *Mind, 82*, 161–262.
Harman, G. (1990). The intrinsic quality of experience. *Philosophical Perspectives, 4*, 31–52.
Haugeland, J. (1998). *Having thought: Essays in the metaphysics of mind*. Cambridge, MA: Harvard University Press.
Horgan, T., & Tienson, J. (2002). The intentionality of phenomenology and the phenomenology of intentionality. In C. David (Ed.), *Philosophy of mind: Classical and contemporary readings* (pp. 520–532). New York: Oxford University Press.
Hurley, S. (1998). *Consciousness in action*. Cambridge, MA: Harvard University Press.
Hurley, S., & Noë, A. (2003). Neural plasticity and consciousness. *Biology and Philosophy, 18*, 131–168.
Husserl, E. (2001a). *Analyses concerning passive and active synthesis* (A. Steinbock, Trans.). Dordrecht: Kluwer.
Husserl, E. (2001b). *Logical investigations*, Trans. J. N. Findlay, ed. and rev. with a new Introduction by Dermot Moran and new Preface by Michael Dummett. London/New York: Routledge.
Husserl, E. (2005). *Phantasy, image consciousness, and memory (1898–1925)* (J. Brough, Trans.). Dordrecht: Springer.
Hurley, S. (2008). Understanding simulation. *Philosophy and Phenomenological Research, 77*(3), 755–774.
Jeannerod, M. (1994). The representing brain: Neural correlates of motor intention and imagery. *Behavioral Brain Science, 17*, 187–245.
Jeannerod, M. (1995). Mental imagery in the motor context. *Neuropsychologia, 33*, 1419–1432.
Jeannerod, M. (1997). *The cognitive neuroscience of action*. Oxford: Blackwell.
Jeannerod, M. (2001). Neural simulation of action: A unifying mechanism for motor cognition. *Neuroimage, 14*, 103–109.
Kind, A. (2007). Restrictions on representationalism. *Philosophical Studies, 134*(3), 405–427.
Klausen, S. H. (2008). The phenomenology of propositional attitudes. *Phenomenology and the Cognitive Sciences, 7*, 445–462.
Kosslyn, S. (1980). *Image and mind*. Cambridge, MA: MIT Press.
Kosslyn, S. (1994). *Image and brain: The resolution of the imagery debate*. Cambridge, MA: MIT Press.
Kosslyn, S., et al. (2006). *The case for mental imagery*. New York: Oxford University Press.
Loar, B. (2003). Phenomenal intentionality as the basis of mental content. In H. Martin & B. Ramberg (Eds.), *Reflections and replies: Essays on the philosophy of Tyler Burge* (pp. 229–258). Cambridge, MA: MIT Press.
Marbach, E. (1993). *Mental representations and consciousness*. Dordrecht: Kluwer.
Martin, M. (2002). The transparency of experience. *Mind & Language, 17*(4), 376–425.
McGinn, C. (2004). *Mindsight*. Cambridge, MA: Harvard University Press.
Menary, R. (2010). Introduction to the special issue on 4E cognition. *Phenomenology and Cognitive Science, 9*, 459–463.
Morley, J. (2005). Introduction: Phenomenology of imagination. *Phenomenology and Cognitive Science, 4*, 117–120.
Niedenthal, P., Barsalou, L., Winkielmann, P., Krauth-Gruber, S., & Ric, F. (2005). Embodiment in attitudes, social perception, and emotion. *Personality and Social Psychology Review, 9*(3), 184–211.

Noë, A. (2004). *Action in perception*. Cambridge, MA: MIT Press.
Noë, A., & Thompson, E. (2004). Are there neural correlates of consciousness? *Journal of Consciousness Studies, 11*, 3–28.
Pitt, D. (2004). The phenomenology of cognition or 'what is it like to think that P?'. *Philosophy and Phenomenological Research, 69*(1), 1–36.
Prinz, J. (2009). Is consciousness embodied? In P. Robbins & M. Ayede (Eds.), *The Cambridge handbook of situated cognition* (pp. 419–436). Cambridge: Cambridge University Press.
Pylyshyn, Z. (1973). What the mind's eye tells the mind's brain: A critique of mental imagery. *Psychological Bulletin, 80*, 1–25.
Pylyshyn, Z. (2003). Return of the mental image: Are there pictures in the brain? *Trends in Cognitive Science, 7*, 113–118.
Robbins, P., & Aydede, M. (2009). A short primer on situated cognition. In P. Robbins & M. Aydede (Eds.), *The Cambridge handbook of situated cognition* (pp. 3–10). Cambridge: Cambridge University Press.
Rorty, R. (1979). *Philosophy and the mirror of nature*. Princeton: Princeton University Press.
Rowlands, M. (2003). *Externalism: Putting mind and world back together again*. Chesham: Acumen.
Rowlands, M. (2010). *The new science of the mind*. Cambridge, MA: MIT Press.
Rupert, R. (2009). *Cognitive systems and the extended mind*. New York: Oxford University Press.
Searle, J. (1992). *The rediscovery of the mind*. Cambridge, MA: MIT Press.
Shani, I. (2013). Making it mental: In search for the golden mean of the extended cognition controversy. *Phenomenology and the Cognitive Sciences, 12*(1), 1–26.
Shapiro, L. (2011). *Embodied cognition*. London: Routledge.
Siewert, C. (1998). *The significance of consciousness*. Princeton: Princeton University Press.
Strawson, G. (1994). *Mental reality*. Cambridge, MA: MIT Press.
Strawson, G. (2004). Real intentionality. *Phenomenology and the Cognitive Sciences, 3*, 287–313.
Thomas N. (2007). Mental imagery. In *Stanford encyclopedia of philosophy*, http://plato.stanford.edu/entries/mental-imagery. Accessed 20 July 2011.
Thompson, E. (2007). *Mind in life: Biology, phenomenology, and the sciences of the mind*. Cambridge, MA: Harvard University Press.
Tye, M. (1988). The picture theory of mental images. *Philosophical Review, 97*, 497–520.
Tye, M. (1991). *The imagery debate*. Cambridge, MA: MIT Press.
Tye, M. (1995). *Ten problems of consciousness*. Cambridge, MA: MIT Press.
Tye, M. (2000). *Consciousness, color and content*. Cambridge, MA: MIT Press.
Varela, F., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.
Ward, D. (2012). Enjoying the spread: Conscious externalism reconsidered. *Mind, 121*, 731–751.
Ward, D., Roberts, T., & Clark, A. (2011). Knowing what we can do: Actions, intentions, and the construction of phenomenal experience. *Synthese, 181*(3), 375–394.
Wilson, M. (2002). Six views of embodied cognition. *Psychonomic Bulletin and Review, 9*, 625–636.
Zahavi, D. (1999). *Self-awareness and alterity*. Evanston: Northwestern.
Zahavi, D. (2003). Inner time-consciousness and pre-reflective self-awareness. In W. Donn (Ed.), *The new Husserl* (pp. 157–180). Bloomington: Indiana University Press.
Zahavi, D. (2008). Internalism, externalism, and transcendental idealism. *Synthese, 160*, 355–374.